# SEVENTH ANNUAL CONVENTION

OF THE

## Union of Saskatchewan Municipalities



HELD AT

PRINCE ALBERT, SASK.

JUNE 26th, 27th and 28th, 1912



\$65 5A

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#### REPORT OF THE PROCEEDINGS

OF THE

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The Convention met in the City Hall, Prince Albert, at 3 p.m., on Wednesday, June 26th, 1912, ex-Mayor Thomas M. Bee, of Lemberg, President, in the chair, and other delegates present as per register on the preceding page.

His Honour, G. W. Brown, Lieutenant-Governor of the Province of Saskatchewan, formally declared the Convention open.

An address of welcome was delivered by His Worship Mayor Morton, of Prince Albert, on behalf of the City of Prince Albert, and was replied to on behalf of the Union by Alderman H. C. Pope, of Moose Jaw.

Letters were read from Hon. Walter Scott and the Municipal and School Journal of Saskatchewan.

The President's address was then read as follows:

#### PRESIDENT'S ADDRESS

## To the Members of the Union of Saskatchewan Municipalities.

Gentlemen,:— It gives me a good deal of pleasure to be present in the City of Prince Albert to preside over the deliberations of a body which, though not legislative in the provincial sense, is concerned with legislation of a local nature intimately associated with the progress, comfort, and health of our Urban communities.

Our Union is of a co- operative, advisory nature, and its usefulness is only limited by the vision of the members.

We are face to face with what is altogether new, we are in a new country, we have few prejudices to overcome in our municipal legislation, we can profit by the failures of other communities, not by their mistakes as much as by their experiments, and avail ourselves at the same time of all the great advances modern science has placed at our disposal.

Further, our Towns are Cities in the making, our Cities great communities beginning, and our responsibility is as great as we care to feel it. The responsibility of making provision for comfortable, healthful, moral cities of the Saskatchewan of the future.

It has fallen to us to lay the foundation.

I may say that this is my first visit to this City of Prince Albert. Royal in name and nature, if the words of practical men who have visions are to be credited, it is a City that is bound to dominate the great north hinterland of this rich Province.

The noble situation of this City with its river and shade is a beautiful sight for the citizens of the prairies of southern Saskatchewan. Nature has already done for Prince Albert what no amount of money can do for the cities of the prairie.

It falls to me to present to you briefly what has been accomplished by the Urban Municipalities since our last convention.

Much progress has been made and more is contemplated. I might mention the successful construction and operation of municipal street railway systems in Regina and the commencement of this work in Saskatoon where I believe private ownership was supplanted by municipal ownership at the last minute.

Also I may mention the discovery and utilization of a splendid water supply in the City of Regina thanks to the energy of R. O. Wynne-Roberts, and the heroic undertaking of the City of Moose Jaw to convey an adequate supply of water from the vicinity of Caron about twenty miles distant.

I should like to refer to the progressive policy of some of the Cities in acquiring sites for schools and parks while locations at a moderate figure are still available. I understand that the City of Saskatoon has taken the lead in this direction. Such action of a municipality requires much confidence in the future growth of a City, and foresight in determining the direction of its growth.

It is safe to assume that the centres of population that are now established must and will grow

with the general development of the Province. If these are to stand still Saskatchewan must stand still, and that in the face of the world's demand for our agricultural products is unthinkable. Therefore we must plan large things.

It is well to note in passing that provision is being made by the Government for ascertaining the feasibility and probable cost of supplying water to the Cities and Towns of south central Saskatchewan from the Saskatchewan River. It seems to me that this matter should be constantly kept before the Government, and the Cities and Towns vitally interested should begin at once to obtain expert information on this great subject.

In one other important matter the Urban Municipalities should meet the activity of the Government, so long as the Government of the Province continues a policy recently avowed, I refer to the maintenance of good roads in the vicinity of the Villages, Towns and Cities. There never was a better prospect than now for the establishment of great highways leading into centres of population.

I might refer also to the advisability of Dominion Legislation compelling the survey by Railway Companies of a right of way for vehicular traffic along the railways, such right of way to be acquired and improved only when required by the conditions of settlement. A network of highways along the railways connecting the Towns and Villages would be a boon for all time.

The market for the issues of municipal debentures should have the consideration of this Union. Financially the East does not understand the West. The east has never passed through the conditions of rapid development that the west is passing through now—the rate of growth is unique in the history of the world. It is not paralleled by any development that took place even in the middle and western States because the conditions are different. It seems to me that western debentures should command a better price, and they will command a better price as soon as Eastern financiers can come to understand that prospective development to-day is actual development to-morrow in these wonderful western communities. We should band ourselves together and have financial agents in the financial centres who are thoroughly conversant with the western conditions and the absolute value of western securities.

We shall have papers on "Development of Future Cities of Saskatchewan," "Public Health," "Water Filtration," "What Saskatoon is doing towards beautifying the City" and "Some problems of small Towns and Villages;" all of a practical nature by men who are experts in their particular department, and I trust that our deliberations will give inspiration and encouragement to the men who are giving time and energy to the great problems of Municipal Government.

#### (Signed) THOMAS M. BEE

The Secretary read correspondence re Health Congress in Washington in September 1912, and from the Union of Canadian Municipalities re their convention in Windsor in August.

The report of the Hon. Secretary-Treasurer was presented as follows:

#### REPORT OF HON. SEC.-TREAS.

## To the Members of the Union of Saskatchewan Municipalities.

Gentlemen:—At the last Convention of the Union of Saskatchewan Municipalities held in Yorkton in September 1911, the date of the convention for this year was left in the hands of your Executive Committee for settlement. It was thought by some members of the convention that it would be wise to change the date of meeting from September to June, and after discussing the matter carefully your Executive Committee decided to take this course, and have therefore called this Convention to meet at this time.

It affords us some pleasure to say that the membership at the present time is the largest in the history of the Union, and also that there appears to be a very growing interest in its work. The practical nature of its discussions has been realized by those who have attended past conventions, and there is no doubt hat the Municipal Councils of the Province have recognized the great value of such a Union as a help to them in their work

As instructed by the convention last year the proceedings of its meetings were published and distributed to every municipality in the Province.

Copies were also sent to every municipal union in the Dominion, and a number of requests for copies of the proceedings have been received from places as far distant as the Southern States. Three circular letters were also sent during the year to every municipality in the Province and in this way the work of the Union has been kept before its constituency.

Resolutions adopted at the last meeting of the Union were placed before the Government for their consideration by a sub-committee of your Executive in January. We were very courteously received by the Minister of Municipal Affairs and a number of Departmental officials. As a result of that interview a number of the resolutions passed were included in the changes made to the various municipal acts at the last sitting of the Legislature. The resolutions acted upon by the Government were as follows:

#### Resolution No. 2.

Amending the clause relating to assessment in the Cities Act.

#### Resolution No. 3.—

Providing for additional notice to be forwarded to assessed owners of land liable to sale for arrears of taxes.

#### Resolution No. 4.-

Providing for the amendment to the form of tax notice for both cities and towns.

#### Resolution No. 5 .-

Amending provisions for the closing and selling of public highways.

#### Resolution No. 12 .-

Extending the authority of towns over buildings within their limits.

#### Resolution No. 30 .-

Giving towns the authority to expend money for the encouragement of good roads outside their limits.

#### Resolution No. 32 .-

Providing for the appointment of trustees to administer the sinking funds of Towns and Cities.

#### Resolution No. 33.

Providing for the establishment of Hospital Boards and Parks Boards.

#### Resolution No. 34.

Giving Cities the power to purchase and acquire lands for industrial purposes.

#### Resolution No. 40.

Amending Section 206 of the Town Act with reference to the appointment of agents at by-law voting.

**Resolution No. 6** was partly adopted in giving City Assessors the right to issue tax certificates.

It was pointed out that resolutions Numbers 19 and 20 were already sufficiently covered by legislation on the statute books.

A long discussion took place with reference to resolution No. 28 dealing with Town Planning. It was pointed out to the deputation that the matter was partly covered by departmental regulations and the matter was eventually left in the hands of the Government to take any further steps they deemed advisable.

In April of this year your Executive were requested by the Chairman of the newly formed Board of Highway Commissioners to appoint a representative to act on the Advisory Committee to be associated with the Board of Highway Commissioners under the Act respecting the construction and improvement of Public Highways passed at the last sitting of the Provincial Legislature. Your Executive met at Regina to consider the matter and conferred with the Chairman of the Highways Commission, and finally appointed the President of the Union as its representative on this Committee. At this meeting of the Executive Committee the matter respecting exemption from taxation raised by the Town of Lanigan at the last meeting of the Union was discussed, and your Secretary instructed to write the Secretary of that Town giving the views of the Executive on the matter.

Attached I beg to hand you financial statement for the current year showing a balance in hand of \$293.87.

All of which is respectfully submitted.

W. F. HEAL. Hon. Sec. Treas.

## UNION OF SASKATCHEWAN MUNICIPALITIES

#### Abstract of Receipts and Expenditures 1911-12

\$144.38

#### SUBSCRIPTIONS

| 7 11 1011        |         |
|------------------|---------|
| Davidson 1911    | \$10.00 |
| Canora 1911      | 10.00   |
| Lloydminster     | 10.00   |
| Maple Creek      | 10.00   |
| Mortlach         | 10.00   |
| Melville         | 10.00   |
| Moose Jaw        | 40.00   |
| Scott            | 10.00   |
| Outlook          | 10.00   |
| Lemberg          | 10.00   |
| Herbert          | 10.15   |
| Regina           | 60.00   |
| Saskatoon        | 36.00   |
| Yorkton          | 10.00   |
| Gull Lake        | .10.00  |
| Wilkie           | 10.00   |
| Lanigan          | 10.00   |
| Lashburn         | 10.00   |
| Macoun           | 10.00   |
| Francis          | 10.00   |
| Arcola           | 10.00   |
| Kerrobert        | 10.00   |
| Colegate         | 10.00   |
| Whitewood        | 10.00   |
| Kindersley       | 10.00   |
| Le Ross          | 10.00   |
| North Battleford | 10.00   |
| Muenster         | 10.00   |
| Indian Head      | 10.00   |
| Prince Albert    | 16.00   |
| Battleford       | 10.00   |
| Strassburg       | 10.00   |
| Venn             | 10.00   |
|                  | 10.00   |

\$442.15

#### EXPENDITURE

| Postage, Telephone and Telegrams\$ 34.96<br>Stationery and Printing 141.35 |          |
|--|----------|
| Subscription to Union of Canadian Municipalities 50,00                     |          |
| Expenses of Executive Committee to Regina                                  | dq ·     |
| Discounts 5.15   | \$292.66 |

Prince Albert, June, 27th, 1912

\$293.87

To the President and Members, Union of Saskatchewan Municipality

Balance in Treasurer's hands.....

Gentlemen.

Your Auditing Committee, having examined the vouchers and reports submitted by the Hon. Secretary-Treasurer, beg to report that the entries in the cash book accord with same so far as submitted, and the balance shown as on hand agrees with the bank pass-book as written up. Also the statement submitted agrees with the cash book.

Respectfully submitted,

G. A. MANTLE,
C. I. DAVIDSON,
AUDITORS

A resolution adopting the auditors' report was carried.

The following committees on resolutions were previously appointed:

Cities—City Engineer Clark, Saskatoon; City Commissioner Davidson, Prince Albert; City Solicitor Grosch, Regina; Alderman Pope, Moose Jaw.

Towns—Councillor Cameron, Wynyard; Ex-Mayor Craig, Rouleau; Secretary-Treasurer Godfrey, Indian Head; Mayor Hall, Lemberg; Secretary-Treasurer Marshall, Battleford.

Villages—Secretary-Treasurer Hilton, Le Ross; Councillor Monson, Avonlea; Overseer Scarff, Venn; Secretary-Treasurer Smith, Lipton.

Commissioner Davidson, Prince Albert, and Commissioner Mantle, Regina, were appointed auditors.

Commissioner Mantle, of Regina, then read a paper, prepared by R. O. Wynne-Roberts, Esq., and Malcolm N. Ross, Esq., of Regina, on "Development of future cities of Saskatchewan."

## DEVELOPMENT OF FUTURE CITIES OF SASKATCHEWAN

By R. O. WYNNE-ROBERTS and MALCOLM N. Ross, Regina

Many papers have been read before various Societies on the ideals which should be kept in view in the developement of Cities and while some of them are often more or less Utopian and rarely become practical, yet some ideals which were at first ridiculed, have by pure force of circumstances and education of public opinion, taken firm root in the minds and practices of the best municipal administrators of the World.

Some cities to day are seriously handicapped by the absence of civic ideals during past generations and ratepayers are now taxed for huge expenditure which a little foresight and public spirit on the part of our forefathers would have avoided. Our responsibilities are much greater than theirs for we cannot claim to be unaware of the mistakes that have been made. Conditions are now much more complicated, but our facilities for meeting them are greater and requirements now are of a much higher standard.

What then are the problems which the rising Cities of the Province may solve in advance? They are essentially those concerning health, amenities, convenience and economy.

Health is dependent on many factors—pure and abundant water supply, efficient drainage, good house accommodation and efficient control of sanitary arrangements for cleaning streets and house surroundings.

Amenities of the community are just what human hands make them; playgrounds for children, recreation grounds for adults, both for winter and summer use; parks, boulevards, and the preservation and utilization of all available natural beauties and efficient control of all building arrangements.

Convenience and economy are factors which contribute directly and indirectly to the cost of living.

Provisions for convenient and rapid transportation and future development under efficient administration are necessary.

These factors are so interdependent that it is difficult to discuss one without the other. Healthy life is induced by pleasant surroundings and rational exercise. Happiness is the outcome of good health and contentment. Economy is obtained by provision for future contingencies wise administration and due regard for the health and comfort of the community. Every city's development is to a large extent the result of these combinations; disregard one of these factors and the entire fabric suffers and the more thoughtfully the citizens of today regard these matters, the more likely is the development to be continuous, satisfactory and permanent.

City planning is not cut and dried system for developing every city, but is really the planning of of the future city in such a way that the maximum value may be secured from each piece of ground in the city. At present we have the checkerboard plan adopted in all Western cities quite regardless of easy lines of communication or of adaptation to natural features and we continue to follow it out quite ignoring the fact that larger cities are now paying severe penalties for its adoption in the past and have found out it may be immensely improved upon.

#### **Opportunities**

We have in this Province the opportunity to to construct more perfectly arranged cities than any in existence, but we shall never do so if all our energy is spent in trying to induce people to believe that the one we happen to live in is the best in the province as long as it is really almost a duplicate copy of the others beyond one or two natural advantages it may happen to have. Each village, town or city is anxious to show better conditions than any other and seeks for any points on which they may claim superiority. In looking over their claims, we find that they depend chiefly on local and natural conditions not due to the labor or thought of the inhabitants. Beyond this we find little evidence of any united or comprehensive schemes which would if executed result in the daily work of the future citizens being carried on under the most scientifically economic and profitable manner, nor the best provision made for the living conditions of the various classes of workers and the

means of which a minimum loss to the community due to sickness and death would occur.

It may appear to the average person a futile and hopeless task for the inhabitants of some new though naturally well-favored village to start out with the idea of providing for certain eventualities many years distant, and to a certain degree this would be the case but it is not so much for the actual performance or the carrying out of any great scheme that the matter should be approached but rather that people should be educated and directed in the development of their village in order that they should not do things which will make it impossible for a good scheme to be carried out later; and that they shall not do things which must ultimately cause discomfort, inconvenience and loss to future citizens.

Streets should be laid out with the view to utility, efficiency and direct connection. Transport of materials to and from warehouses, railways, etc. is now becoming a subject which is occupying the attention of specialists in America and Europe. Canadian cities, although of much more recent growth have already had to consider the subject, whereas if those cities had been originally laid out with due regard to utility, efficiency and direct connection, the heavy burdens and dissatisfaction of today would not exist.

The new comer who can be shown that street allowances are provided for which give the shortest possible transible from various directions, that spaces are reserved for schools, parks and public buildings, even if these reservations are still prairie, will feel much more attracted and satisfied than he would if he sees that when the village gets larger and grows into a city, the transportation for all time to come must be round two sides of a triangle, that the grounds for his childrens' schools, hospitals, fire stations, libraries, parks, etc. must be bought at a high valuation and possibly not at all where most required even then.

The fundamental feature in city expansion is the transportation of persons and goods cheaply and rapidly. Formerly traffic was almost entirely horse-drawn and the speed was slow but today in large cities the bulk of the traffic is mechanically drawn, much more rapid and the number of vehicles much greater, and a crisis has been reached even in some Canadian cities where this change has not reached the point already passed in other cities. The mere increasing of streets widths will not meet the new

conditions in most cases, in fact, it has sometimes been found to accentuate the difficulties..

Example:—

Take an ordinary case of a street one mile long running south joining one running west for another mile. A team of horses with loaded wagon and costs, say \$5.00 per day, say they can travel 16 miles per day on an average in the city delivery work, that is making 8 journeys. But suppose there was a direct route between the two points, the distance would be only 1½ miles instead of two, or over 1000 yards shorter so the teams could make a greater number of journeys.

The cost of cartage at \$5.00 per day is here 31 cents per mile and as the team travels an extra 43 miles each day, owing to the corner the daily loss \$1.45. If this continues for 300 days, each year, the annual loss is \$435.00.

In a busy town the number of teams employed must be very great, and if the above loss is reckoned up, it will be found to accumulate extraordinarily. Take the distance from Dewdney Street and Broad St. Subway to the corner of Albert St. and 16th Avenue in Regina, the annual loss due to the above cause will be \$326.00 per team and assuming 20 teams so employed, the loss will be \$6520.00 per annum.

Expressing the fact in another way, it now takes 20 teams to do the same amount of work that 16 teams would do on more direct routes. These calculations could be extended to show that the loss is even greater than is above indicated, and this has to be borne by the public.

But apart from loss in transport, we must remember that the lengths of main roads, sewers, street railways, water mains and other public utility works have to be considerably greater, all of which costs money in construction and maintenance.

Furthermore, the more direct routes from any centre of a city to outlying parts there are, the less congestion is likely to occur in busy quarters.

A great deal depends on the ease and rapidity with which all classes of workers can reach their work from their homes. Older cities are being obliged to provide extremely expensive railways to enable workers to live under satisfactory conditions at far distances from their work. Some recently planned modern towns, however, are being arranged so that these expenses are unnecessary, because pleasing and

comfortable surroundings are planned for in advance close to the places of work and both workers and employers find the arrangements financially excellent, the resulting economies to the community from the improved health and decrease in death rates are enormous in these communities, but they depend altogether on wise regulations and plans drawn up before any developments are permitted.

The greatest needs for the improvement on present conditions seem to be provisions for more economical transportation and a differentiation of the present plan so as to lay out certain districts in such a way that they will be best developed for special purposes. It is obviously ridiculous to lay out a plan which will provide exactly the same sized block for artisans and laborers' homes and also for warehouses, factories and offices, no matter in what part of the city they may be located in. By paying sufficient attention to these in modern cities, a considerable amount of the congestion of traffic near one centre may be avoided and it may here be noted that the advocacy of "Civic Centres" may, unless very carefully considered in its relation to transportation, prove to be inconvenient. Looked at from the transportation side, it appears to be much more profitable to have several "centres" of industry, etc. than the one "Civic Centre" no matter how attractive such a scheme may appear to be to the architect or designer.

The great requirement in all business enterprises is stability and in nothing is it of greater importance than in real estate values. It seems almost as important that certain pieces of land should not be suddenly and enormously appreciated in value as that they should not be depreciated, owing to some unforseen developments not due in any way to the energy or judgement of the owner. This does not mean that there should be any limit or interference with the real value of the property, in fact, the result would probably be the reverse. Persons knowing certain property would ultimately become valuable for certain purposes would be willing to pay higher prices than under conditions where the prices are speculative and in the main governed by the lowest point they are likely to reach if developed under average conditions as opposed to special and fixed conditions. Other things being equal, all classes of business men, Bankers tradesmen, manufacturers, etc. would give preference to a small town which was to be developed along certain designed plans over one in which nothing was provided for the future and where the developments would be greatly influenced by the various whims of property owners and officials.

At present it is almost a matter of chance whether a piece of property particularly valuable under present conditions will be nearly as valuable a month hence for the same purpose nor can it usually be forseen for what particular purpose it will be valuable.

With regards to waterworks. No city can permanently thrive without an abundant supply of good water, therefore in all rising towns the inhabitants should have sufficient enterprise to provide for the future and not act on the theory of "Sufficient unto the day is the evil thereof".

Copious supply at reasonable pressure to satisfy the daily want of the people, and the waterworks system so designed and arranged as to permit economical expansion on comprehensive and adequate lines will constitute a prominent factor in the development of our future Cities. Dr. Boyce, of Ottawa, in a paper read by him two years ago makes the following statement: "This is a condition for which there is no excuse whatever, and the neglect of ordinary laws of public health not only robs the city of the potential earning powers of its inhabitants, but also brings needless suffering and distress to innocent people, and casts a discredit on the city generally."

The Insurance companies are able to bring some pressure to bear on the authorities in connection with the provision for fire extinction; there is however room for some authority to insist on measures for fire prevention. It is infinitely cheaper to prevent fires and the incalculable losses due thereto than it is to extinguish the fire and restore the business and credit. The actual loss by fire last year in Canada was nearly ten times as great per head of population as it was in some other parts of the world. The city which reduces this disastrous loss is bound to attract business people, and to induce people to dwell there.

A general adoption of building regulations with care and consideration, having for their object the health and safety of the inhabitants, will bring about great improvements in buildings in all respects but such regulations must be provincial and not local, otherwise some towns will neglect adopting them lest they might interfere with building operations and this possibly accounts for much of the fire losses.

Sanitation is a general term and covers many phases of public and private life, A clean well-regulated town is always a great attraction. Streets well made, neatly kept, back lanes free from litter, and refuse generally collected and disposed of, in an efficient and regular manner.

Dirt begets dirt and nothing reduces a neat householder to despondency more than dirty surroundings. Cleanliness and neatness in public sanitation induces similar attributes in private dwellings. There is today a strong preference for a home where ample supply of good water, together with efficient drains and sewers are provided. The value of plots increases rapidly as these conveniences are introduced. The fact that old residents remember a different condition is no argument for its perpetuation. Education has wrought great changes in this regard much to the advantage and wealth of cities.

The value of human life is higher in the West than almost any where and everything which tends to its preservation means the conservation of our The prevalence of tuberculosis typhoid is an index of the effective measures adopted by municipal authority. Tuberculosis is the disease of house life and the scourge of overcrowded rooms and inefficient sanitation and it only needs the public to be fired with imagination and enterprise to reduce these diseases to a minimum. In short the development of our future cities as well as those we now know. depends on the wisdom of the chosen administration. who are called upon to perform duties which are often unpopular; yet with wise expenditure of capital and reasonable foresight, the cities which will grow into importance, will be those which have learnt by the experience of others and adapted the lessons to their own circumstances.

An essential item in the equipment of all cities is the area devoted to purposes of recreation and ornament but in examining statistics we find no sort of uniformity between the relation and disposition of the total area of parks and play grounds to population. There has, however, been a good deal of investigation into the effect of such places on the inhabitants of the neighborhood and the general result seems to be that the beneficial influence on the character and health, especially of the children, reaches its limit at a distance under one half mile therefore in planning for development we should arrange for parks and playground reservations so

placed that no person should have to live at a greater distance from one than this. Some of the largest items of expenditure in modern American cities have been for park and playground sites which the citizens have been compelled to acquire after the value of the land had risen to that of high class residential property and it has been repeatedly pointed out that the same, by a little foresight, could have been secured at comparatively nominal prices.

We still find in this Province that absolutely no steps have been taken to make provision for park areas on land that is to be sub-divided. There is a general expression of protest against the sub-division and sale of outside property near towns and cities but it is doubtful whether it can be or even ought to be checked. Arguments in favor of control seem to be very inconclusive and when closely examined, are not quite so altruistic as they first appear.

We have then the condition of planning towns in advance of development considered as desirable and necessary in the countries where the subject has been most carefully worked out, while in the West where very few have given even casual attention to the subject, there is an idea that it is undesirable. The curious thing about this condition is that no one seems to point out where the real root of the objection lies or why it is thought desirable in one case and not in the other. The reason is obvious enough; in the one instance the subdivision proceeds on well thought out lines and the provisions and regulations are elastic and allow of adjustment to meet unforseen contingencies while in the other there is little care or thought evident, no attempt to adapt plans to local conditions and the regulations are rigid and inelastic.

Is it not advisable to realize that we are allowing our great opportunities to slip by, that we are neglecting to take advantage of the experiences gained by long years of careful, scientific study in several parts of the world and under many conditions? Our common practice of doing something simply because it was done in some city in the east or elsewhere will not work out to advantage as it is simply applying old fashioned rule-of-thumb practice. To make our future cities as perfect as we can it will be necessary to apply modern, scientific methods of investigation, to examine carefully the economic, social, and mechanical aspects of city growth, in order to comprehend the general terms and ideals of

modern life which are very different from those of even ten years ago.

The Convention then adjourned.

#### Wednesday Evening, 8.30.

The following papers were read:

"Practical Sanitation"—Dr. W. McKay, M.H.O., City of Saskatoon.

"Public Health"—Dr. M. R. Bow, M.H.O., City of Regina.

"Water Filtration"---City Engineer Clark, Saskatoon.

These papers were followed by considerable discussion, the authors answering a number of questions asked by the delegates.

#### PRACTICAL SANITATION.

By Dr. W. J. McKay, M.H.O., Saskatoon.

To the

Union of Saskatchewan Municipalities.

Mr. President and Gentlemen:-

Almost all those measures for the preservation of the Public health, employed as a matter of course and of necessity in older and larger cities, can be applied in our youngest, smallest village with most satisfactory results. It is strange that typhoid fever, the dirt disease is no longer regarded as a city disease. It occurs now in the country and in those cities and towns with slip shod sanitary organizations.

In Saskatchewan we posessed a land with clean soil, pure water, and air such that the one who lives out of doors and in tents on our prairies does not catch a cold until his return to cities and towns. This is a very healthful climate. With the crowding together of settlers from all parts of the earth many places have already become polluted. Too much has been imposed upon nature. Soil and air cannot dispose of the heaps of human excrement and house refuse. Yet there are many of those contributing to the pollution, who, when asked to adopt the simplest sanitary measure, such as placing slop in a can instead of on the earth near the family well, speak of it as an absurd idea which may be all very well for New York. It is difficult to see why a man should be any dirtier here in a village than he would be in New York. We

have abundant evidence of the fact that if he is dirty here he will pay the penalty. Being clean is not being fastidious.

In village or city, clean streets, lanes, and back yards without manure heaps, open privies or sloppy pools are essential to health and easily obtained. Human dwellings must have clean surroundings, and when several are together the occupants must act together in sanitary matters as the health of one so directly affects the health of the others.

We believe in the public water supply. City cleaning forces are found to serve the public better than private contractors. The municipal slaughter house is the only guarantee of clean meat. The municipal dairy for the unfortunate bottle fed infants, and the municipal central milk receiving station for others seem to be the only certain means of guaranteeing pure milk. These and other practical sanitary undertakings are coming in spite of all greasy ill-smelling opposition; and the sooner municipalities see and take hold of the responsibilities they cannot longer decently avoid, the better for the reputation of Western Canada.

Let a community once feel that it becomes liable for damages when any preventable disease is contracted within its bounds, because of its defective sanitation, and there will be a sudden improvement. Municipal hospitals are the least that can be required. If disease is not prevented it must be cured.

Under the present municipal system of shirking responsibility for preventable ill-health the direct cost is borne by the individual and his friends. There is nevertheless a dead loss to the public in every case. It pays to prevent this loss of time, health, pleasure and money, even by increasing the rates.

What is the sense of allowing the deplorable deaths of infants of dirty milk infection? Why not give them clean milk?

Why permit the young man whom it has cost so much to rear and educate to die of typhoid, when clean water and clean food will keep him a useful member of the community? It pays to keep the back yard clean, to regulate the production, care, and preparation of food.

Why lose the brightest and most valuable lives by bad air diseases, particularly tuberculosis?

It pays to see that every one has a chance to share in the fresh out door air and sunlight; to supervise the construction and occupation of dwellings, hotels, boarding houses, schools, churches, and workshops, particularly as to lighting, ventilation, heating and and cleanliness.

It pays to keep men in such condition that they may be worth their salt and not fall into the class of chronic grouchers or weary Willies. Ill health means inefficiency. It is therefore a very shortsighted policy and bad financing to stint the investment of funds in promoting health and its accompanying prosperity.

Good sanitary results can be had if reasonable health laws are uniformly, fairly and strictly enforced. The Regulation of the Bureau of Public Health when applicable and sufficient are much more effective than home made municipal bylaws as the makers of the Regulations are less likely to be influenced by little selfish local interests.

Of the greatest importance in obtaining results in health work is the choice and status of officials. The political parasite who holds his position by favour The appointment and dismissal of the chief sanitary official should be only with the approval of the Commissioners of Public Health, and the executive work should be entrusted to this official entirely. In cities he should undoubtedly be a man of special training, holding qualifications in medicine and in public health work. In smaller places a trained sanitary inspector can apply practical sanitation with good results. No portion of Saskatchewan should however be without the services of a specially trained sanitary official. These men should hold good qualifications and receive fitting reward, at least \$1200 per year. As has been suggested by Dr. M. M. Seymour, in small places and rural municipalities the sanitary officer may discharge the duties of clerk, constable, registrar of vital statistics and general executive officer.

Having laws and officials permit the officials to enforce the laws. There is no respect due the citizen or councillor who seeks special privileges for himself and friends at the expense of the public.

The intelligent co-operation of the public is essential to the success of any scheme of sanitation.

#### PUBLIC HEALTH

By M. R. Bow, B.A., M.D., M.H.O., Regina

Civilization has brought with it innumerable problems, solutions for which have demanded the highest degree of skill and the most careful and intelligent administration by those in authority, of such problems, vital or the welfare of a people the health of the community must take first rank. Public Health is the very first of the great concerns of the community. It is most significant, that to-day as never before the people are alive to this fact, and are making an earnest effort to co-operate with those whose work it is, to not only make a community livable but wholesome and clean. Every line of Public Health work is slowly but surely coming into its own, and we may hopefully look forward to the day when the people will be thoroughly educated to not only the desirability but the absolute necessity of such a work.

The tendency of the present age is towards a concentration of the population in cities. The cause of such a concentration of population is the desire on the part of the people to get money easily and quickly and to spend it advantageously, it has thus resulted that steam, electricity and kindred appliances which annihilate space instead of enabling people to live further apart, have had a directly opposite tendency. One of the undoubted results of the concentration of population is a deterioration in physical health. An artificial environment is being substituted for a natural one with the result that both the mobility rates and mortality rates are higher in urban than in Country communities.

The crowded City makes for a deterioration in physique and one has only to visit the slums of a great City to see this exemplified. The death rate for urban England was 22.32 as against 16.95 for Rural England according to the report of the registrar general for 1905.

In the sciences, contributory to sanitary science wonderful progress has been made during recent years. Bacteriological research and Pathological research in discovering the cause of so many of the most fatal diseases have opened the way for effective treatment, and as a result what was a pestilence in the past has been so far eliminated as to become in many cases but a sporadic disease, small pox and the plague

are great examples of this, and the world can never repay the men whose devotion to this work has been such a signal blessing to mankind. It has been estimated that Lord Lister's discovery of asepsis has saved more lives than were lost in the Franco-Prussian War, Jenner's discovery of Vaccination, Pasteur's researches, Koch's great investigations have been of paramount importance in laying the foundations upon which we build. It is ours to see that we realize to the fullest, the great results of such work, and by applying the principles revealed to us by all men of science, make this world better and a more wholesome place in which to live.

To-day our country and especially our cities stand in need as never before, of well trained and enthusiastic sanitary officials. It is a work that demands the very best and that appeals alike to the scientific and the humanitarian sides of our nature. The members of sanitary officials are rapidly increasing which is an encouraging and indeed a very hopeful sign. It is an indication that public opinion is behind the work, and unless we have the hearty support of the public at large no sanitary measures are of any account, when the people realize that the safety of the community, that the welfare of their own homes is at stake, then may we feel that we are indeed on the onward march. It takes time to develope a sound public opinion on any line and in this line of work as in all others the sanitarian must not try to force matters.

The general public does not to-day realize that tuberculous is much more to be feared than is small pox. When a case of small pox is reported in the community it is as an alarm sounding and all are on the alert—vet cases of tuberculosis are seen every day and pass unheeded and tuberculosis is responsible for about 1.4 of the total death rate. Quarantine, isolation, segregation and such other measures are an absolute necessity in tuberculosis if the community is to be protected and if we are to stop the ravages of this, the modern scourge. The present situation is encouraging, but before any great forward step can be taken we must spend more time and energy in the education of the public. And we should be careful to note what is meant by education, not only a knowledge of the danger of the disease, but a hearty desire to support by private and public contributions of energy and funds the work of those

on the firing line. It is not difficult to find a line upon which to work if the desire to help is present.

The prevention of disease is much more economical than its cure. It is not a difficult matter to realize the economic loss to society of disease. The most eminent and scientific men have emphasized the great field for preventive medicine and have prophesied that in the future the physician's duties will become more preventive and less curative. President Taft when asked to name some of the most important world achievements in 1911 named the result of the use of Anti-Typhoid Vaccine in the American Military camps in that year by which typhoid fever was eliminated, as one of the great achievements. Other eminent men have not hesitated to appreciate the fields for preventive medicine Lloyd George's recent legislation is bending to make the physician more and more the servant of the state. However medical men may differ as to financial adjustments. they must be at one in the opinion that to do great and efficient work for the welfare of the community the state and the physician must have a class working agreement.

The practical application of sanitary science. which Dr. McKay has already treated, in his paper has two objects, closely related, the prevention of premature deaths, and the prevention of unnecessary sickness. Let us take the state of Michigan, where splendid work is being done for the public health. for example—here the principal causes of death are Consumption, Diptheria, Pneumonia and Typhoid Fever—each one of these is a preventable disease and the practical measures necessary for their restriction or prevention are to-day well known, we therefore can no longer plead ignorance as a cause for inaction Must we plead indifference? Can we live in an age that we sometimes in our enthusiasm boast of as the most civilized, remain unaffected at an annual loss of life preventable, appaling.

For pretection against the dangerous communicable diseases the general co-operation of all classes of people is essentual. We have recognized this fact in small pox, but we are more slow to appreciate it in the case of scarlet fever, diptheria, measles, etc. To-day no person can live unto himself. A thousand times a day our absolute dependence on our fellowmen is brought home to us. The safety of each individual is bound up with the safety of others and when one suffers all are exposed. Governor Wilson

of New Jersey recently emphasized this fact in an address of welcome to the A.M.A. when he said "The thing I am particulary impatient with, ladies and gentlemen, is dividing our lives and our interests sections and supposing you know nothing about anything except one thing. The whole problem of modern society is infinitely conplicated just because it is variously specialized, and it should be our object to avoid the specialization of interests it should be our object to effect a union of purpose. to unite ourselves with one another not as a body of competing interests, but a body of united interests moving forward to the common goal of general service. That, it seems to me is the problem of all intelligent men in the United States and in the world at large. I cannot do better, therefore than to ask you in your modern occupation to harmonize the various parts of our whole life to one another so that heat, hostility and friction may be taken out and all the sweet and wholesome processes of life may be restored".

I have stated that sickness and death is in many cases preventable. What evidence is there to support such a statement?

- (1) With the improvement of sanitary measures and the great advance in practical sanitation throughthe world there has been a gradual increase in the duration of human life and a very great decrease in the mortality of certain diseases.
- (2) Not so very many years ago leprosy and the plague were common diseases in England. We are all more or less familiar with the great London plague which ann ihilated thousands. To-day leprosy and the plague are indeed very rare and with a vigilant health service it is most improbable that any such epidemic could again recur.
- (3) The reduction in small pox mortality following Jenner's great work is another great achievement in support of this statement.

In the 18th century the estimated deaths from small pox alone were 400,000 for Europe, while for London alone from 1761 to 1800 the deaths from small pox averaged each decade 19,425 and most children in that city had the disease before the 7th year of life. In Sweden the following figures give an indication of the effects of vaccination in that country. The figures cover three distinct periods pre-vaccination permissive vaccination and compulsory vaccination, mortality per million.

Pre-vaccination 1774-1810 average 2045 for 28 years. permissive vaccination 1802-1816 average 480 for 15 years compulsory vaccination 1817-1893 average 155 for 77 years. The very high yearly mortality which is found in Austria where compulsory vaccination is not in force should prove to any man, not an imbecile, that compulsory legislation is not only beneficial but necessary for the safety of the community.

- (4) In many of the countries where we find good living conditions, where drainage has been provided for, good food used and where sanitary measures prevail a reduction in the mortality from tuberculosis is a result. Just here, let us ask you what are the conditions in your locality and what are you doing to improve them?
- (5) The magnificent work done in the Panama Canal Zone by which yellow fever has been eliminated is another great piece of evidence. Had this work not been accomplished it is safe to say that the Panama Canal would never have been completed. The rows of graves along the Canal Zone bear witness to the terrible devastation from yellow fever before preventive measures were worked out and put into practice. To-day the whole area is patrolled by men who keep every surface drain sprinkled with oil thus rendering it impossible for the mosquito, which is the infecting agent, to live, who can estimate what medical science has done for the world even in this particular case.
- (5) The great reduction in the number of cases of typhoid fever following the installation of sewerage systems, pure water and milk supplies, and good home hygiene.

The following plan showing the reduction in typhoid in the city of Munich with the extension of the sewers is instructive. Typhoid fever is the desease of filth and is a severe reflection on the conditions that prevail in the communities in which it is prevalent. "Wherever and whenever men congregate together without making adequade provision for the disposal of their excreta typhoid fever is a natural sequence." In this western country every corporation should pound this into the heads of their representatives, until the desired result follows.

(7) The state of Michigan furnishes an inspiring example of effective public health work. Theirs is a record of the saving of 100 lives a year from small pox, 400 lives a year from scarlet fever, 600 lives

a year from diptheria, total saving of 1100 lives per year or three lives per day.

(8) In many countries, particularly the tropics, where measures have been taken providing for proper drainage of the soil, clearing of forests etc. there has been a decided reduction in the mortality and sickness from some of the intermittent fevers.

There are only a few striking illustrations of what great progress the last half century or more has seen.

The great bases for the practical application of sanitary science are morability statistics, mortality statistics and authentic records of experience in sanitation. For the collection, publishing and tabulation of such data it is essential that there should be legal provision. It is necessary that Governments should make such provisions and that their records should be issued as Government records.

Allow me to say a word with reference to organization for Public Health work. It is very essential that the local officers who control the finances of the township, village, town or city shall be well represented on the Board of Health or even constitute that Board. And it is also very desirable that the men placed on such a board shall not be of the type whose memory lingers on the "Good old days" for effective work the Board must be progressive, enthusiastic and must realize their great responsibility to the community, The trouble in the past has been that the Board of Health have been more like Fire Departments only called on to work when danger is imminent. The Health Officer should have the authority and the means necessary to enforce the law and the Board of Health should render him a support that they have often done in the past.

We hear a great deal today of the Conservation movement. By all means let us co-operate to conserve our great national resources but let us put first things first and keep them first. Can there be any greater National Resource demanding Conseration than the Health of the people, and has any other feature of our National life been more neglected? When a case of hog cholera is reported to the Federal Department of Agriculture, an expert is sent out and the farmer has the benefit of the most expert advice for the conservation of his hogs. If a country physician has the temerity to report a case of tuberculosis he is told to look after it himself. Life in the estimate of our Governments seem to have been held cheap. A National Health Service would

conserve the highest interests of every citizen, the interests of life itself. In the great progress we are making in this western country let us not repeat the errors of the past, but let us put ourselves in line with every movement tending to raise us in the scale of civilization, and especially let us go on record as a people who have realized that the wealth of the of state is not to be computed in dollars and cents. Disraeli once said "The health of the people is the first duty of the statesman."

Before bringing this paper to a close, there is another point on which I would like to dwell and which should commend itself to the serious consideration of a body of such representatives men as are here assembled. It is essential that if we are to have good work done in sanitation, we must have There is at the qualified and effecient sanitarians. present time no opportunity for a young man who desires to enter such a field to secure the necessary training aside from such courses as the colleges and Universities offer. But these do not meet the need. What is required is some kind of extension course for young men already engaged in the work or who have this work in view. In England and Scotland the sanitary institutes meet the need and the men who take the course prescribed by such institutes are in great demand. Some municipalities will not accept men without these certificates. It is someof this nature that is urgently required in this country The work is important enough, the field is broad enough to warrant definite action being taken. The Sanitary Inspector is as essential an officer in every town or village as the Policeman. I think that the matter might well be taken up by this convention. We want a body of well trained and efficient Sanitary Inspectors throughtout our province and we can obtain such officials if we provide the necessary instructions. I trust that this matter will receive due consideration by this convention and that some definite action may be taken.

## METHODS ADOPTED BY THE CITY OF SASKATOON FOR THE PURIFICATION OF DOMESTIC WATER SUPPLY

BY CITY ENGINEER CLARK, Saskatoon.

In the report of the proceedings of the first annual meeting of the "Commission of Conservation" held in Ottawa, January 1910, there is published an address delivered by Mr. Charles R. Coutlee, C. E., on the Water Wealth of Canada. In the course of his address Mr. Coutlee says in part as follows;—"Increase of population at Calgary, Mcleod and Lethbridge, will bring up the question of sewage contamination at Medicine Hat, which is down stream from all these places. The same difficulty too will arise later in Saskatoon."

Owing to the extremely rapid increase in population in the Provinces of Saskatchewan and Alberta this difficulty, anticipated by Mr. Coutlee, has arisen sooner than was expected. The water of the South Branch of the Saskatchewan River is being polluted, not only by small towns and villages which are springing up along its bank, but by the cities above mentioned; all of which are still discharging their sewage into the South Saskatchewan or its tributaries.

The City of Saskatoon is located on the South Saskatchewan River at a point approximately 700 miles from the foot hills of the Rocky Mountains. Owing to its passage over this long distance through various kinds of soil there is a considerable quantity of matter collected by it, which remains in suspension and solution. The matter in suspension, indicated by the turbidity, varies at different times of the year from 10 to 400 parts per million, and of this amount of matter in suspension about 75% is inorganic. In addition the organic matter in solution at all times of the year amounts to 150 parts per million and the inorganic matter in solution to 300 parts per million.

While it is the general belief that none of the typhoid cases which have developed in the City during the past two years can be traced directly to the city water supply, yet the Provincial Bureau of Public Health maintains that a turbidity in water

such as is presented in this case, consisting to a large extent of fine quartz particles, has an irritating effect on the intestinal canal and predisposes to enteric conditions. It would appear as if there were good grounds for this belief because the period of most typhoid comes immediately after the period of excessive turbidity in the water. For these two reasons therefore namely;—Excessive turbidity and danger of contamination, the civic authorities of the conjunction with the Provincial Bureau of Health decided that it was advisable to guard the Public Health by purifying the water which was being daily distributed to the city's consumers for domestic use.

### Requirements of Water being used for Domestic Purposes

Water which is to be used for domestic purposes should possess the following qualities:—

- (1) It should be free from disease-producing germs.
- (2) It should be free from those allied organic forms, which may not as yet be recognized as accompanying disease but which nevertheless may not be conducive to health.
- (3) It must be uniformly clear and free from turbidity, whether it be produced by mineral or organic matter.
- (4) It must be free from color, odor and taste.

The method adopted by the City of Saskatoon to accomplish these results may be divided into three steps, Sedimentation, Filtration and Sterilization.

Sedimentation.—This is a very important step in the question of water purification, the principal factor being the action of gravity. Under this influence particles of suspended matter, whose specific gravity is greater than that of water, settle to the bottom, the force by which they are drawn downwards being proportional to the size of the particles in suspension. In settling through the water however there is friction between the surface of the particles and the water, hence, smaller particles settle more slowly than the larger ones.

To illustrate, a particle of sand .1 millimetre in diameter will settle through water at the rate of

2000 feet in 24 hours; a bacterium .001 millimetres in diameter will settle at the rate of only a few inches per day, while a particle of clay .0001 millimetres in diameter will settle at the rate of one-twentieth of an inch per day. Furthermore the velocity of the settling particles is slower in winter than in summer because low temperature impedes sedimentation.

The larger particles of matter in suspension are more cheaply removed from the water by means of settling basins. Therefore even with filtration it is advisable to utilize sedimentation as a preliminary process in order not to put too heavy a load on the filter bed.

At Cincinnati, where experiments have been made on the sedimentation of the water of the Ohio River it was found that after 24 hours subsidence 62% of suspended matter was removed, after 48 hours 68%; after 72 hours 72% and after 96 hours 78%. It will be seen from these figures therefore, that there is a limit to economical subsidence depending on the nature of the suspended matter.

The Sedimentation Basin in connection with the Saskatoon plant is divided into two equal parts by a weir wall across the centre. The capacity of the basin is such as to give an eight-hour subsidence when the filter is working at full capacity. The system of inlet piping from rain water pumps and outlet piping to filters is as shown on Plate 1. Under general working conditions the water will enter the basin at the extreme north end and discharge at the extreme south end. A mechanical device will register the amount of Water passing over the Weir at any time. It is very necessary to have this information in order that the operator may know at what rate to feed the coagulant.

In the case of the South Saskatchewan River, owing to the fact that the water has a sufficient alkalinity content, sulphate of alumina presents the necessary reaction to form an alumina hydrate, which, in precipitating, coagulates much of the organic matter and drags down the finer suspended matter. It is proposed therefore to add Sulphate of Alumina to the water in the subsidence basin as a coagulant in order to increase the deposit of sediment before the water enters the filters. Reports from the Harrisburg filtration plant and other places would indicate that, instead of adding

a unit of coagulant in one particular application, greater efficiency is obtained by dividing the unit into three parts and adding each part separately at different stages. Provision is being made therefore for applying the Sulphate of Alumina at three points.

- (1) When the water enters the Sedimentation Basin.
- (2) When it passes over the weir.
- (3) Just before it enters the filter.

Under the conditions existing from about the middle of August until the middle of March it is anticipated that only one application of the coagulant will be required, amounting to probably 1 grain per gallon. The mixing is done in the chemical solution tanks in the filter building, and it is generally considered good practice to make the solution very dilute in order to prevent clogging of the feed tubes. Plate 2.

Filtration.—The three best known types of filters viz:-Slow Sand Filter, Gravity Mechanical Filter and Pressure Filter, were all duly considered before a decision was arrived at as to which one was best suited for our purpose. A very strong point in favor of the Pressure Filter was that with this type of installation, one system of pumps would have been all that was necessary to deliver the water from the river direct to the distributing system—whereas with either of the other two systems a double pumping is necessary. The excessive turbidity of the water however made pre-liminary sedimentation an absolute necessity and the idea of installing Pressure Filters had therefore to be abandoned. The Gravity Mechanical Filter was chosen over the Slow Sand Type for the following reasons:-

- (1) The Mechanical Filter will handle 50 times more water per unit of area per day than the Slow Sand Filter.
- (2) The Mechanical Filter is therefore, on account of smaller area, more easily protected from excessive cold.
- (3) It is cheaper because it requires less land, less material for construction and less equipment.
- (4) It is cheaper to operate because it is more easily cleaned.

**Description of Mechanical Filters.**—The Filtration Plant as installed in Saskatoon consists of the following:—

- (1) One reinforced concrete filtered water basin having a capacity of approximately 125, 000 imperial gallons.
- Six reinforced concrete filter units, each being 14ft. by 6in. by 20ft. by 7ft. high. (2)This provides an effective filtering area of 290 square feet. The outer ends of these filter units extend beyond the filtration house and are decked with a reinforced slab of concrete provided with manholes and vents. In the concrete bottom of the filter is embedded a series of strainers connected with a system of piping which collects the water after it has passed through the filtering media. This media consists of a layer of gravel graded in size from .2 to .5 of 1 in.; the larger pebbles being placed on the bottom and gradually decreasing in size to the top. The thickness of this layer is not less than 8in. The gravel consists of hard round stones and is placed as described above in order to prevent the passage of sand through the strainers.

Upon the gravel is placed a layer of not less than 36in. of sand. This consists of hard silicious material free from vegetable matter, or other foreign substance, in effective size of grain it should not be less than .36 of a millimetre and not more than .55 of a millimetre.

- (3) One motor driven centrifugal pump for furnishing filtered water for washing filter units, taking filtered water from the filtered water basin, and delivering it to each of the filtering units under pressure.
- (4) One rotary pressure blower with motor drive for furnishing air under pressure to agitate the filter sand.
- (5) A complete apparatus for the preparation and feeding of Sulphate of Alumina and Hypo Chlorite of Lime.
- (6) Hydraulically operated valves for controlling the operation of the filter units. All the filters are controlled from the operating tables in one building. Plate 3.

Operation.—Water will be delivered from the river to the subsidence basin at a point where the end of the supply pipe enters this basin. The water will flow by gravity from this point to the dividing wall in the centre of the basin. During the passage of the water from the inlet to the outlet in this basin the heavy particles of suspended matter will settle to the bottom, As the water flows over the weir between the basins it will receive the coagulant. Coagulation and additional subsidence will take place in the second basin and the water will flow from this basin to the filters, through the sand and gravel of the filter units to the strainer system, then to the clear water basin beneath and thence to the suction well of the filtered water pump. The entire operation of the filtering plant will be by gravity.

Washing.—Whenever a filter unit becomes so clogged by impurities which it has removed from the water that it is no longer filtering economically the operator is warned of its condition by the automatic ringing of a bell and appearance of a light immediately above the filter in question. This particular unit is then placed out of commission.

During the washing process the inlet valve to the filter is closed. The water on the sand bed allowed to filter through the rate controller into the filtered water storage well. The air supply valve being opened on the filter, the air is admitted to the sand bed, and the latter is scoured for a period of two minutes, after which the air supply is shut off and the wash pump placed in operation and filtered water admitted to the filter through the manifold and strainer system, causing a reverse current for a period of two minutes, which washes the sand, carrying the heavy deposits which have been filtered out of the water during the process of filtration to the supply and wash trough, from whence it is carried to to the waste and thence to the drain. This alternate air and water washing is continued for a period of from six to ten minutes the time depending upon the cleanliness of

the sand bed. The duration of the air scouring and washing periods being diminished after the period of two minutes each.

After the washing process the sand settles back into its normal position in the bed, the heavier particles settling on the bottom with the finer grades toward the surface, or the sand settles in relation to its specific gravity.

#### Results-

- (1) Each filtering unit is capable of delivering 666666 imperial gallons of filtered water per 24 hours. This is equivalent to 100 000,000 imperial gallons per acre per day
- (2) The filtered water is free from color, odor and taste.
- (3) The filtered water shall not contain undecomposed coagulant.
- (4) When the number of bacteria contained in the raw water is more than 3000 per C.C. the filtered water shall show an average bacterial reduction of 97%, and when the number of bacteria is less than 3000 per C. C. the average number of bacteria remaining in the filtered water shall not exceed 100 per C.C.
- (5) The average quantity of water necessary to clean the filters will not exceed 4% of filtered water. This is based on the yearly average of water required for washing.
  - Sterilization.—This is a third operation which may be required to be performed on a public water supply before it is absolutely pure. It is only necessary to take this step in the cases of highly polluted rivers where the filters have not removed all the harmful bacteria.

Sterilization or disinfection consists in the poisoning, or destroying by chemical means of the bacteria in the water, not removed by the filters.

A complete Calcium Hypochlorite plant is being installed in connection with the Saskatoon filter, and extensive experiments will be carried out along the lines suggested in this report. In connection with the operation of this plant it is the intention of the authorities to appoint an experienced bacteriologist who will keep systematic records of the qualities of the raw and treated water, the bacterial count etc.—and when the plant has been a year in operation we hope to have some information which will be of value to all those interested in the purification of public water supplies.

The Convention then adjourned.

The Convention resumed its sittings at 11.45 a.m. on Thursday, June 27th, after the delegates had spent the early part of the morning in availing themselves of an automobile drive around the City and district of Prince Albert to which they were invited by the residents of the City.

The various committees on resolutions reported progress and the Convention adjourned to 1.30 p.m.

The Convention resumed its sittings at 1-30 p.m.

A paper was read by Mr. J. N. Bayne, Deputy Minister of Municipal Affairs for the Province of Saskatchewan, on "Some Problems of Small Towns and Villages."

# SOME PROBLEMS OF SMALL TOWNS AND VILLAGES.

By J. N. BAYNE, Deputy Minister of Municipal Affairs.

Mr. President and Gentlemen:

Your organization has now completed its seventh year and as seven is stated to be a perfect number, we cannot help but connect the old adage with the fact that you have rounded out the first and probably the most important period of your existence in thus assembling for the seventh time in your history. I am sure that no one of the several delegates present can have any doubts as to the usefulness of your Union; in fact even the casual observer who has

read the 1912 amendments to The City, Town and Village Acts will see therein the carrying out of many ideas promulgated at your last convention held in the Town of Yorkton. Speaking for the department, I can say without hesitation that the importance of your institution is heartily conceded and your representations relative to the municipal laws of our province receive close attention.

I think that we who are fortunate enough to be present on this occasion should congratulate ourselves that the 1912 convention was held in picturesque Prince Albert. A landscape architect would rejoice on coming to a city such as this; for here kind nature was centuries before him, anticipating his work and assisting in creating a city that is pleasing to every sense. Fortunate, indeed, is our northrern metropolis, the future of which holds probably more surprises than that of any other urban municipal organization in our province. But I will not dwell further on our delightful surroundings nor on the hospitality, which characterizes its people, but will attempt to draw attention to some difficulties which many of our junior municipalities. confront

Let us start with a quarter section of bare, bald prairie, far from railway lines or the sound of locomotive. It lies, perchance, between two strategic commercial points which an enterprising railway wishes to connect with its bands of steel. The first signs of life, save that of the gopher or the covote, the surveyors who may camp on or near this particular parcel of land. They drive their stakes and pass on. We read soon after that a branch line of railway has been approved between the two points referred to above. The right of way is purchased and it soon becomes known that our quarter section is selected as a site for a station. From far across the prairie can be seen the land prospector's horses and wagon: he comes and examines the country about; he decides that round the such a nature that it will soon blossom with homesteaders and the products of their activities. The station, he decides, will be a centre and here, in his mind's eve, he sees the nucleus of a city. He comes, he sees and returns to his home and friends to spread the news among those in whom he may be favorably interested that he has struck a new Eldorado in the form of a townsite. Meanwhile our quarter section is subdivided into town lots by

a company which is probably subsidiary to that one owning the railway. Our Pioneer hies himself hurriedly to the office of the townsite company and purchases one or more lots; and, through his eloquence, induces his friends to do likewise. In a short time a caravan stops on our quarter section, now dotted with stakes. Like an immense mushroom springs up a hamlet, noticed for some distance around by the new, unpainted buildings. We soon see a store, a lumber yard a machine agency, a restaurant—probably presided over by an almond-eyed celestial—and a blacksmith shop with its smithy who, however, stands under no spreading chestnut tree.

Following some correspondence with the proper department at Ottawa, a post office is secured and in less time than can well well be understood a school district is formed to include the townsite and the school building itself soon follows. In the meantime, the surrounding country has become dotted with houses and soon after a rural municipality is formed. The council board is soon heard referring to our new townsite as a hamlet. The railway has come and is already pushing its way far past the point where our attention is centred. A neat station house now graces our little community and two or three elevators are being built on the right of way.

But our pioneers commence to ask themselves: "What would happen if the fire-fiend came?" "And what would then become of our frame buildings, particularly so if the flames were fanned by a not unusual wind?" This first question is followed by others: "Why can we not have sidewalks?" "What are we going to do to preserve and improve the health of our community and to compel some of our negligent citizens to clean up their premises?" "Why can we not drain our low spots and make our home surroundings attractive to the eye that newcomers will feel disposed to stay with us?" A man with the very best intentions, but who perhaps takes a too rosy view of human nature, suggests as a solution: "Let us take up a voluntary subscription among our people and thus secure enough of the almighty dollar to purchase these necessities." But an unsystematic method of giving doesn't appeal to some of the older heads, who had doubtless seen its weaknesses in times past.

A shrewd citizen interjects the question: "Why should we not make those contribute who are not living here, but whose property is rapidly going up in value because we are on the ground? Why not make the man or the company living at a distance, surrounded by comforts and conveniences, in some city perhaps, help along those of us who are doing the pioneering?" His reasonable appeal strikes a responsive chord in the minds of his hearers and they immediately commence to devise some scheme of systematic and mutual but at the same time compulsory self help to be engaged in by both resident and nonresident land owners. They see the necessity of taxation and their need of having their plan recognized by law, so that if necessary a delinquent or grudging party could be forced to pay what might be levied against his property. One of the number claims that a law exists known as Village Act, under which the community might be be incorporated and therein find the very scheme for which they have been groping. At once the proper department at Regina is communicated with. the usual petition forms are received; circulated and signed, with the result that in a very short time a village is established and a council board of three responsible ratepayers are elected by the people themselves to govern and manage the new village municipality. Soon the necessary officers are appointed and, with true western enterprise are performing their various duties in a manner which leaves little to be desired.

But the enthusiasm which has characterized the establishment of the village is somewhat dampened when the ratepayers find that the current revenue to be raised by the first annual assessment is not sufficient to carry out the commendable ambitions of the burgesses. To commence with, there are many holes to fill up and possibly a slough to drain. A town well must be dug and a durable pump secured. In rainy weather particularly, citizens are clamoring for sidewalks; while the department of municipal affairs is exhorting the council board to secure proper fire protection for the young and growing municipality. It is not long until the population of the village has increased and the town well and the town pump commence to show signs of decrepitude and exhaustion. The citizens are complaining that the insurance rates charged on their buildings are high on account of there being no fire-fighting equipment and constant water supply. It is also recognized by the same citizens that the buildings are practically all wooden and that a fire would doubtless spread once it had got

beyond the control of the bucket brigade. The council board finds itself confronted with a jumble of difficulties and those mentioned are not by any means all. A great obstacle which retards their ambitions is that which assails many of us namely, the lack of funds and a lack of credit.

All conditions being favorable, many of those troubles mentioned can be overcome by the borrowing of money by debenture, thus providing that its repayment will be spread over a period of years. so that those who will be enjoying the benefits of the improvements in time to come will assist in paying for them. But in too many cases the total amount allowed to be borrowed under The Village Act -which is ten per cent of the total value of the assessable real property in the village as shown by the last revised assessment roll- is inadequate to cover the cost of all that the villages wishes to do and in a new, thriving, enterprising and optimistic western village the virtue of patience is hard to cultivate. It is sometimes necessary to remind those who chafe under a restraining municipal law that "Rome was not built in a day".

A solution for some of the difficulties enumerated can be found in the hearty and liberal cooperation of the citizens, careful management of its finances, unanimity among the members of the council board, with an elimination of selfish interests:

Time nor circumstances would not allow us to go further than to mention only some of the difficulties of the junior urban municipal organizations. We might revert to one mentioned above, as it is of particular importance to the health and welfare of our various communities. That one is the water problem. In a few cases at least it has proved difficult to secure water at any depth. In others, the precious fluid is so far down that much expense is incurred in securing a flow, thus crippling the finances of the small town or village. This is an obstacle in the pathway of municipal progress which we doubt not will be overcome by some huge drainage scheme, but at present a lasting remedy is hard to prescribe. Again, proper drainage in many of our prairie towns is a serious question. An outlet is hard to find and the attempt to secure such is often fraught with heavy bills. Provided that the municipality has deemed it advisable and necessary to institute a sewage system, the difficulity of drainage and the securing of proper disposal works are tasks which strain the finances of the community.

It has been found in many smaller communities that it is difficult to maintain a high standard of health as it is in larger municipal organizations, which have many times the number of people. An epidemic often cripples a village or small town for months and is a scourge from which they find it hard to recover.

But while many of the statements given seem pessimistic in their nature, yet a brighter side is dawning for our villages and smaller towns. The general scheme of evolution which governs is improving our laws in connection with the powers given to the young and struggling municipal organ ization. We have only to look back to the year 1908 and years previous, to find that a village could borrow by debenture only \$1000, a sum, you will readily admit, which in some villages doesn't go far towards supplying their immediate or future wants, that is, provided the said village has reasonable ambitions. Towns and villages may borrow, as already intimated, up to ten per cent of the total value of the assessable real property in the village as shown by the last revised assessment roll. Another bright ray of hope is the fact that our villages and small towns increase in population now more rapidly than heretofore and that not so many vacant lots or properties which are exempt from taxation exist. With the growth of the province, comes the growth of revenues for any municipality. The present Town and Village Acts, which were adopted in 1908 and which were passed on the expressed desires of the people directly concerned have meant a measure of relief which in many urban municipalities has been taken advantage of, to the benefit of the place in general and its individual ratepayers.

It is easy to point out difficulties and obstacles. It is easy to critize and to prolong a sorrowful tale. Many people can scold and possibly advise who are incapable of solid thought or reasonable deduction. I will not prove this statment by enumerating further difficulties, but will mention one other which which probably has more to do with the somewhat backward condition of some of our small towns and villages than anything else that has come to my notice. That one detriment is the lack of municipal interest on the part of the ratepayers themselves.

Or it might be expressed as a woeful want of public spiritedness or, to simmer it down again, it might be expressed in the word selfishness, a quality which, so far as municipal affairs is concerned, reacts on the short sighted ratepayer who may be guilty of of possessing it to an obnoxious degree. How many ratepayers actually sympathise with the councillor who is doing what he can to comply with the many and varied wishes of the ratepayers so often expressed. How many burgesses ever speak an encouraging word to their representatives? For one who gives moderate and reasonable suggestion to the council board, how many are there who indulge in carping criticism of any and all acts of the councillors? We have noticed some smaller municipalities that the average citizen does not seem to care whether a council board is secured or not when someone attempts to discuss with him the responsibility of the council board board and the fact that in accordance with British institutions the people are given local self-government, he treats the whole matter as a joke and only gets into earnest in devising some means by which to evade payment of his taxes which he emphatically states "are all wasted anyway". Civic pride will do more towards overcoming the difficulties mentioned than all the legislation which any government can enact.

On the other hand - and I am pleased to state that this is the brighter view of the case - there are villages and smaller towns in Saskatchewan where the people act in harmony with the council board, where they actually make a determined effort to pay their taxes while they are still current in order to strengthen the hands of the councillors and to assist in the advancement and growth of the place. Many such can be mentioned to-day and their existence is sufficient to encourage any one of us in stating that notwithstanding all difficulites and apparently impossible problems our municipal organizations in general will, with true western push and optimism rise to the front and give to the observer, no matter from what portion of the globe he may come, an example of genuine local self-government, which is the binding force of our world-wide empire.

At the close of the paper a lengthy discussion ensued, and Mr. Bayne answered a large number of questions that were put to him by the delegates.

The Secretary then read a paper prepared by Rey. E. B. Smith, Secretary of Parks Commission,

Saskatoon, on "What Saskatoon is doing towards Beautifying the City."

The Convention then adjourned to a boat ride on the Saskatchewan River tendered the delegates by the City of Prince Albert.

The Convention resumed its sittings at 9.30 a.m. on Friday, June 28th.

The committee on Village Resolutions submitted the following resolutions:

#### Resolution No. 1.-

That the legislation giving Cities authority to make restrictions as to the distance from the street line buildings must be placed in order to ensure uniformity be extended to villages also.

Adopted.

#### Resolution No. 2 .-

That legislation be provided whereby Village Councils have control over the erection of buildings in villages sufficient to enable them to provide for the prevention of serious fire danger, After some discussion the resolution was referred back to the Committee for re-drafting.

# Resoltuion No. 3.-

RESOLVED—That the borrowing power of villages for the purpose of permanent improvements be extended as far as regards the period of repayment.

Defeated.

#### Resolution No. 4.

RESOLVED—That legislation be provided whereby Villages are enabled to borrow and expend money for the purpose of developing any natural resources that are known to exist within their respective boundaries.

Defeated.

A resolution was introduced dealing with the Herd Law of the Province. The Secretary read a letter from the Deputy Minister of Agriculture with reference to a similar resolution adapted last year, explaining that the matter was already sufficiently covered by legislation, and the resolution was therefore withdrawn.

The Committee on Towns Resolutions then submitted the following resolutions.

## Resolution No. 5.—

RESOLVED—That in the opinion of this Convention, it is desireable that all by-laws providing for the issue of debentures of towns and villages, should be certified as to legality by the Department of Municipal Affairs before same are advertised locally prior to being voted upon by the burgesses.

Adopted.

The Committee on City Resolutions then submitted the following resolutions.

#### Resolution No. 6.—

RESOLVED—That the cities of the West, should, if they have not already the power, petition the legislature to grant such legislation as would enable them to assess the cost of a high pressure fire protection system on a system which shall vary from year to year according to the actual value of lands and improvements thereon.

Adopted

# Resolution No. 7 .-

RESOLVED—That the words "industrial, commercial" be struck out of clause 6 section 185 of the Cities Act providing similar clauses are struck out of the Towns Act, and Clause 4 of the said section be amended by adding after the word "Company" where the same first occurs in line 6 of the said clause 4. "Or any persons, syndicate or corporation in respect of any industrial or commercial undertaking".

Further that provision be made that any site granted for industrial pourposes pursuant to the provisions of the city Act be commensurate with the industry to be carried on upon such site.

Also that the Secretary-Treasurer be instructed to forward a copy of this resolution to the Municipal Associations of Manitoba and Alberta and request their co-operation in obtaining similar legislation for their respective Provinces.

Adopted.

## Resolution No. 8 .-

RESOLVED—That section 409 of the Cities Act be amended so as to provide that in default of payment the amount may be levied by distress similar to the provisions contained in the code. Adopted.

### Resolution No. 9.

RESOLVED that chapter 49 of Section 2 of R. S. S. be amended to read as follows;-

Upon an application for an order for confirmation of a sale of land for taxes made under the provisions of any Act of Saskatchewan it shall be necessnary to give notice of such application only to all persons appearing by the records of the proper lands titles office to have any interest in the said lands, but such notice may be dispensed with by the Judge.

### Adopted.

### Resolution No. 10 .-

RESOLVED that the section of the Cities Act appertaining to petition for the Judge's Order, directing payment of the surplus standing to the credit of the tax-sale fund, be repealed. In view of that clauses be inserted providing a more simple procedure namely:-to compel the person or persons making application for payment out (1) In case of redemption to deposit the tax-sale transfer with the City Treasurer, and a clause stating that such deposit of transfer shall divest the purchaser at that tax-sale of all interest which he has ever had in the property purchased at such sale. (2) That in case of confirmation, the person or persons applying for surplus, shall file with the city treasurer a duplicate copy of the Judge's Confirmation Order, together with abstract of title showing the land standing in the name of the purchaser at the tax-sale.

Further that similar provisions be made with respect to towns and villages.

Adopted.

### Resolution No. 11.-

RESQLVED that the Cities act be amended so as to authorize Police Constables to arrest without a warrant any person committing a breech of a City by-law, and that similar provision be made with respect to towns and villages.

Adopted.

A resolution dealing with grants to hospitals was introduced and referred back to the committee for re-drafting.

## Resolution No. 12.—

RESOLVED that power be given to cities and towns to collect the business tax for the year at any time after the first of January, such tax being based upon the previous year's assessment and rate of taxation.

Adopted.

# Resolution No. 13 .-

RESOLVED that the Lieutenant Governor in Council be petitioned to amend the regulations regarding the apportionment of the salaries of Police Magistrates in Cities, so as to increase the Government's contribution to such salaries.

Adopted.

### Resolution No. 14.—

RESOLVED that the Legislature be requested to amend clause 47 of the "Liquor Licences Act" by increasing the proportion of the license fees paid by hotels and wholesale liquor businesses, to municipalities.

Adopted.

# Resolution No. 15 .-

RESOLVED that the liability of the Municipality for damages for non-repair should be limited to that portion of the road on which work has been performed or improvements made by the municipality.

Adopted.

#### Resolution No. 16 .-

RESOLVED that section 393 of the Cities Act be amended by inserting the words "seven days" in lieu of the words "two months" as contained in the amendment of 1912, and further that said notice of claim should state the cause of the accident and the place where the same occurred.

Adopted.

The Convention then adjourned.

The Convention resumed its sittings at 2 p.m.

The Committee on Village Resolutions introduced the following amended draft of Resolution No. 2:

RESOLVED that legislation be provided whereby village councils have control over the erection of buildings in villages sufficient to enable them to provide for the prevention of serious fire danger by providing for the establishment of fire limits.

Adopted.

### Resolution No. 17 .-

RESOLVED that an amendment be provided to the village Act whereby a village is enabled to assess and collect taxes in respect of such businesses as are non-assessable under the Single Tax System.

Adopted.

The Committee on Town Resolutions then submitted the following resolutions.

### Resolution No. 18.—

RESOLVED that in the opinion of this Convention, the Government should be requested to create a branch of the Department of Municipal Affairs under the control of an expert, for the purpose of assisting in marketing Municipal Debentures.

Adopted.

# Resolution No. 19 .-

RESOLVED that section 383 of the Town Act amended to add the following proviso.

"Provided however that notice of any such claim or action must be served upon the Town Clerk within seven days of the happening of the alleged damage and any action brought for damages in connection therewith shall be commenced within two monthn from the receiving of such notice.

And provided further that all actions against Municipal Corporations for damages in respect of alleged injuries sustained through non-repair of of streets, roads or sidewalks shall be tried by a judge without a jury and the trial shall take place in the Judicial District in which the road, street or sidewalk is situated.

Adopted.

The Committee on City Resolutions then submitted the following resolution.

## Resolution No. 20.—

RESOLVED that the Provincial Government be asked to introduce legislation providing that the assessment departments of cities, towns and villages be allowed to make searches at the various Land Titles offices (for assessment purposes only) free of charge.

Adopted.

#### Resolution No. 21.-

RESOLVED whereas the continued Government grant to hospitals and the charge against Municipalities and Local Improvement Districts for the object a provided by section 172 of the Town Act and sections 222 and 223 of the Act are insufficient to meet the actual expenses incurred by the hospital in caring for the patients

Be it therefore resolved that the Government be petitioned to amend the said acts by making the charge against the municipalities or Local Improvement Districts responsible for the payment of the said charge one doilar and fifty cents (\$1.50) per day, and that in case of infectious disease transient patients the Government give a direct grant to the Municipalities of at least one half of the cost of the keep of the patient, and the Medical Health Officers of the different city and town municipalties be asked to furnish information regarding the cost of the keep of such patienss incurred in their respective districts, and that such information be used by the Executive in submitting this matter to the Government.

Adopted.

The following resolutions was introduced from the floor of the Convention.

### Resolution No. 22 .-

RESOLVED that in the opinion of this convention the time is ripe for opening a Provincial Home for Incurables.

Adopted.

RESOLVED that the Hon. Secretary-Treasurer be paid the sum of One Hundred and Fifty Dollars as an honorarium for his services during the past year.

Adopted.

Delegates from the following Municipalities invited the Union to hold their 1913 Convention at their respective towns or cities—Indian Head, North Battleford, Moose Jaw and Regina. The City of Regina withdrew in favor of the other Municipalities, and on a ballot being taken it was decided to hold the 1913 Convention in Indian Head.

The following officers were then elected for the year 1912-1913—

President, Thomas M. Bee, Esq., Ex-Mayor of Lemberg.

Vice-President, Mayor Davidson, Indian Head. Hon. Secretary-Treasurer, Commissioner Heal, Moose Jaw.

Executive Committee—
Mayor Earle, Battleford.
City Solicitor Grosch, Regina.
Secretary-Treasurer Hilton, Le Ross.
Mayor Morton, Prince Albert.
Councillor McGrath, Yorkton.
Alderman Pope, Moose Jaw.

RESOLVED that a hearty vote of thanks be tendered the retiring Officers of the Union.

Adopted.

RESOLVED that the amount of \$50 be paid as a grant to the Union of Canadian Municipalities.

Adopted.

Miss Moulton, Editor of The Western Municipal News, addressed the Convention with reference to the appointment of an Official Organ, and the following resolution was submitted:

RESOLVED that The Western Municipal News be the Official Organ of the Union. Adopted.

RESOLVED that Mr. J. N. Bayne be asked to represent the Union at the Convention of the Union of Canadian Municipalities to be held in Windsor, Ontario. Adopted.

RESOLVED that a hearty vote of thanks be given the City Council and citizens of Prince Albert for their hospitality in entertaining the Convention.

Adopted.

RESOLVED that a hearty vote of thanks be tendered Mr. J. N. Bayne, Deputy Minister of Municipal Affairs, and Mr. A. Houston, Inspector of the Department of Municipal Affairs, for their attendance at the Convention and the interest taken therein.

Adopted.

RTSOLVED that the printing of papers submitted to this Convention be left to the Executive Committee to arrange, and that in future the authors of the various papers be requested to file them with the Secretary for a sufficient time prior to the date of the Convention in order that copies of same may be printed for the convenience of the delegates.

Adopted.

A resolution was introduced providing that the Convention should meet alternately in towns and cities, but after some discussion it was withdrawn.

The Convention then adjourned after singing the National Anthem to meet again next year as previously stated.



